

**From:** Jason Schaperow *RSI*  
**To:** Vonna Ordaz  
**Date:** Tue, May 11, 1999 12:24 PM  
**Subject:** Re: Dose Consequences

I just met with Mike Cheek. As a result of our meeting, I will be revising the MACCS analysis as shown below. These changes are given in order of decreasing priority.

1. Revise the MACCS input to produce consequence results at 100 miles and 500 miles.
2. Change the population from Surry to 100 people/square mile, because 100 people/square mile is more generic.
3. Put the rest of the core into the spent fuel pool. This has the potential to increase the early doses at each decay time (30, 90, 365 days) and to increase the impact of decay time before the accident occurs. (The spent fuel pool inventories in NUREG/CR-4982 are only for offload of 11 refueling batches and do not include the remaining two thirds of the core still in the reactor vessel.)
4. Start the fission product release at t=5 hours, with evacuation starting at t=2 hours. My current analysis starts the fission product release at t=1 hour, with evacuation starting at t=2.5 hours. This has the potential to reduce early doses. This change is based on the idea that, with a spent fuel pool accident, it takes a long time to reach the point where significant quantities of fission products are being released and, therefore, evacuation will begin before the release.
5. As a sensitivity, change the release fractions for Ce and La from 1E-6 (NUREG/CR-4982) to 6E-6 (NUREG/CR-6451).

Mike believes that 95% evacuation is more realistic than 99.5% evacuation that was used in NUREG-1150. Therefore, based on his direction, I am using 95% evacuation. Also, I am using 1.8 m/sec (4 mph) evacuation speed in all of my analysis.

I do not believe that all of this work can be completed by tomorrow. A more realistic time would be on the order of a week.

-Jason

>>> Vonna Ordaz 05/11 10:50 AM >>>  
Thank you, Jason.

>>> Jason Schaperow 05/11 9:59 AM >>>  
I contacted Mike Cheek and Glenn Kelly. I will meet with Mike in his office at 10:30 am today to discuss what additional analysis is necessary in the short term. Currently, it is unclear to me exactly how much additional analysis is required. Therefore, I cannot agree that I will be done by tomorrow. After I meet with Mike, I will have a better idea when I can be done.

-Jason

>>> Vonna Ordaz 05/11 8:43 AM >>>  
Jason,

As you know, Glenn Kelly, Mike Cheek, Jim O'Brien, John Ridgely, and I met last week regarding the dose consequence calculations that are needed for the risk estimates in our Working Group effort. I know that John Ridgely gave you the summary of our meeting, which included the specific assumptions that Mike Cheek needs in order to have more realistic dose consequences for the risk estimates.

My understanding of the assumptions that you need to provide to Mike Cheek is as follows:

C/49

1. Warning time (initiation of accident time to the time the operators are aware of it) - at 5 hours
2. Delay time (time it takes the public to evacuate) - at 1 hour, at 3 hours, and at 5 hours
3. Distance at 100 miles and at 500 miles
4. Population - 100 people/sq. mile
5. Evacuation speed - 1.8 m/sec

As we discussed on the phone yesterday, Mike needs to have the final dose consequences for these assumptions **no later than Wednesday, May 12th**. Please give Mike a call at 415-8380 or Glenn at 415-1075 if you have any questions on the assumptions. Also, when you send Mike and Glenn an e-mail copy of your consequences on Wednesday, please CC me at VLO.

Thank you!

Vonna

CC: cgt, mcc2